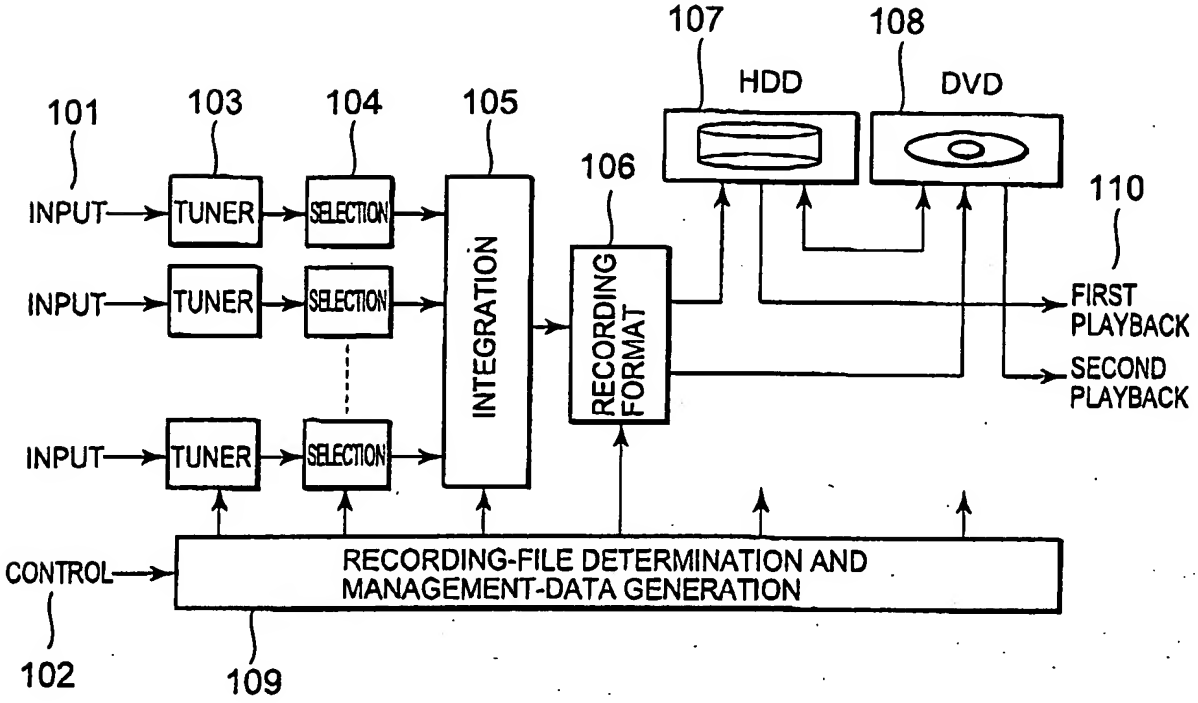
101
103
104
105
106
107
108
110
HDD
DVD
INPUT
TUNER
SELECTION
INTEGRATION
RECORDING FORMAT
FIRST PLAYBACK
SECOND PLAYBACK
CONTROL
RECORDING-FILE DETERMINATION AND MANAGEMENT-DATA GENERATION
102
109

FIG. 1

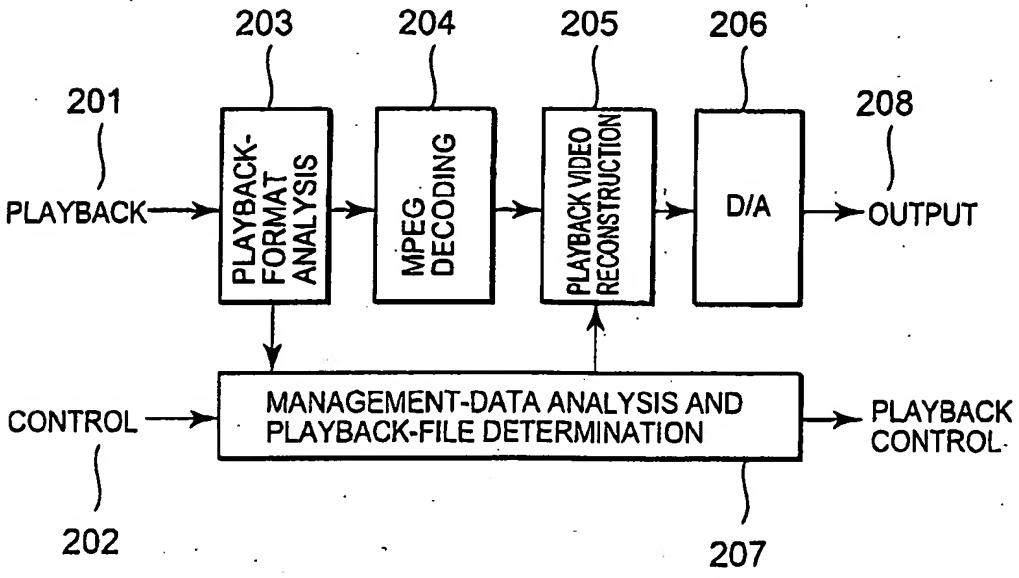
201
203
204
205
206
208
PLAYBACK
PLAYBACK-FORMAT ANALYSIS
MPEG DECODING
PLAYBACK VIDEO RECONSTRUCTION
D/A
OUTPUT
CONTROL
MANAGEMENT-DATA ANALYSIS AND PLAYBACK-FILE DETERMINATION
PLAYBACK CONTROL
202
207

FIG. 2

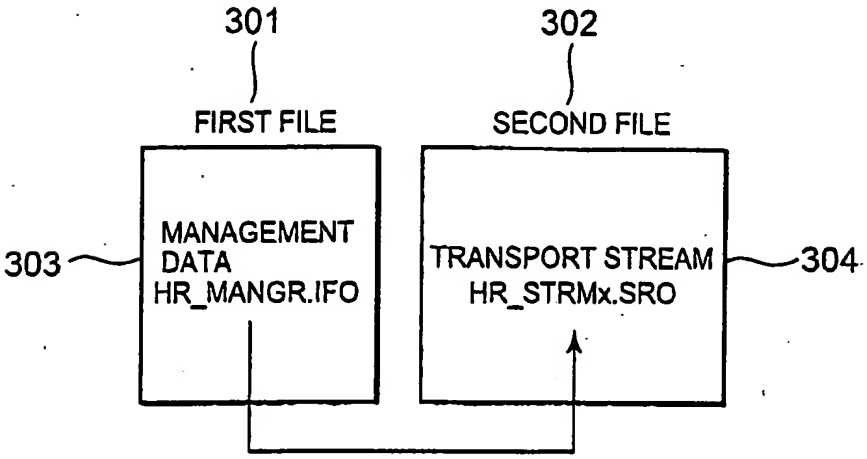
301
302
FIRST FILE
SECOND FILE
MANAGEMENT DATA HR_MANGR.IFO
TRANSPORT STREAM HR_STRMx.SRO
303
304

FIG. 3

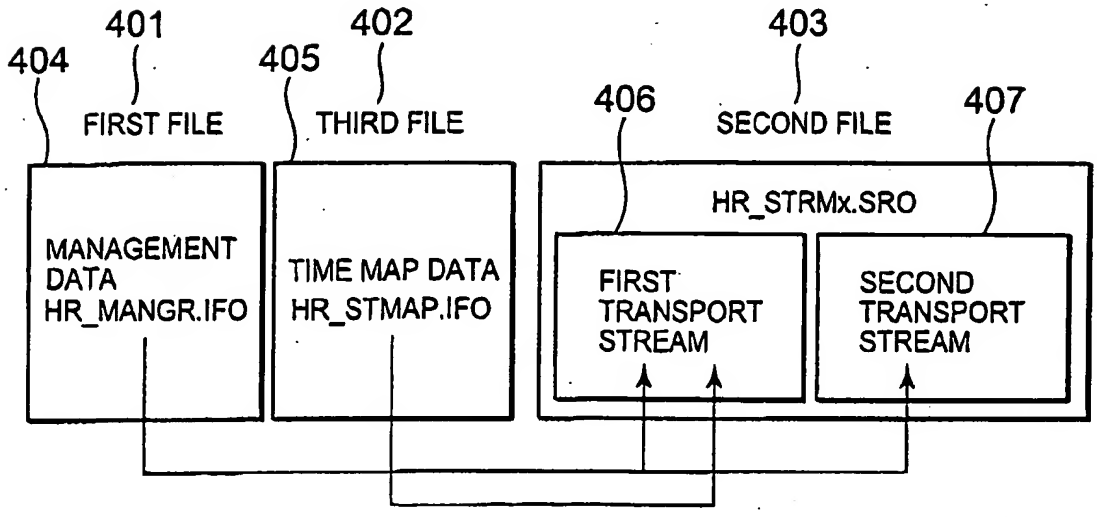
401
402
403
404
405
406
407
FIRST FILE
THIRD FILE
SECOND FILE
MANAGEMENT DATA HR_MANGR.IFO
TIME MAP DATA HR_STMAP.IFO
HR_STRMx.SRO
FIRST TRANSPORT STREAM
SECOND TRANSPORT STREAM

FIG. 4

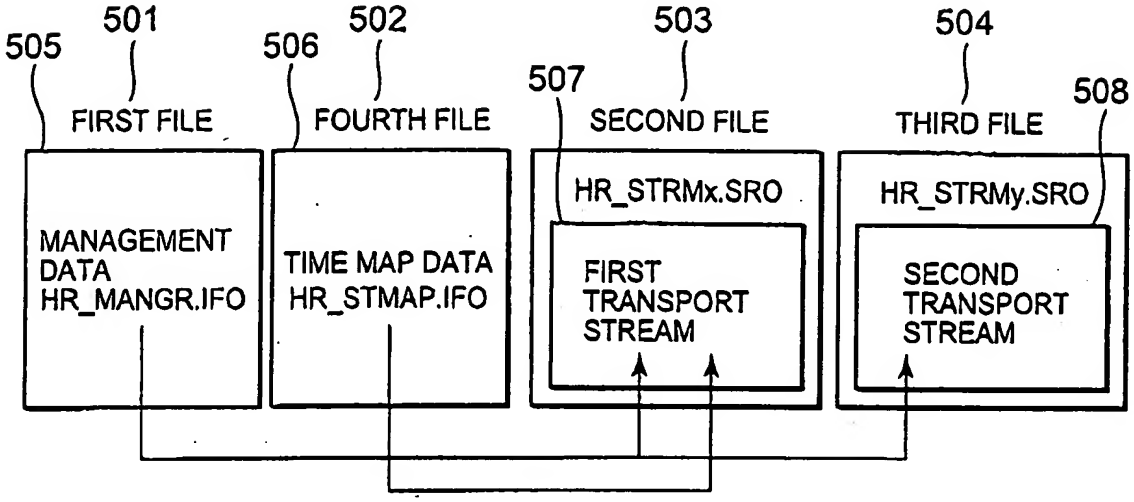
501
505
502
506
503
507
504
508
FIRST FILE
FOURTH FILE
SECOND FILE
THIRD FILE
HR_STRMx.SRO
HR_STRMy.SRO
MANAGEMENT DATA HR_MANGR.IFO
TIME MAP DATA HR_STMAP.IFO
FIRST TRANSPORT STREAM
SECOND TRANSPORT STREAM

FIG. 5

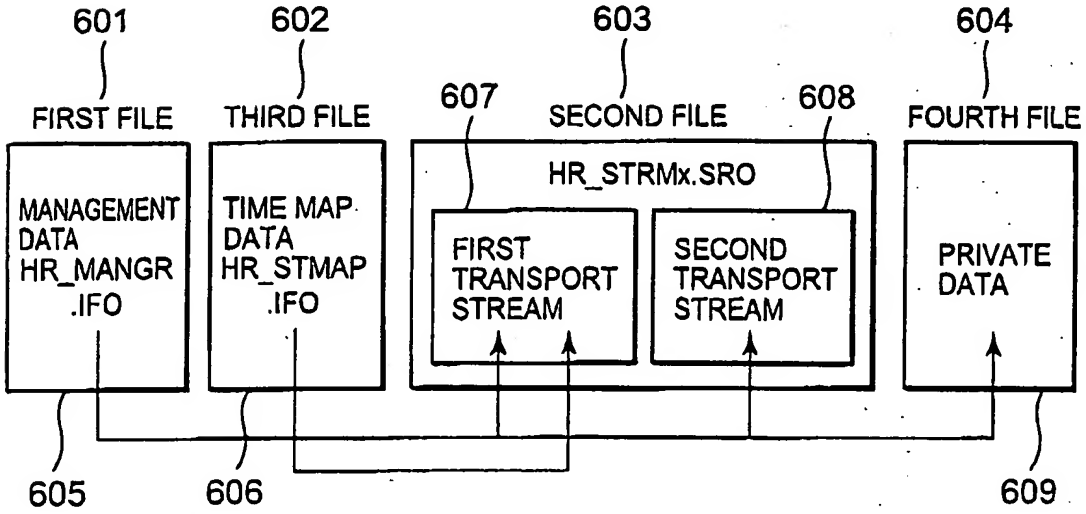
601
602
603
604
607
608
FIRST FILE
THIRD FILE
SECOND FILE
FOURTH FILE
HR_STRMx.SRO
MANAGEMENT DATA HR_MANGR .IFO
TIME MAP DATA HR_STMAP .IFO
FIRST TRANSPORT STREAM
SECOND TRANSPORT STREAM
PRIVATE DATA
605
606
609

FIG. 6

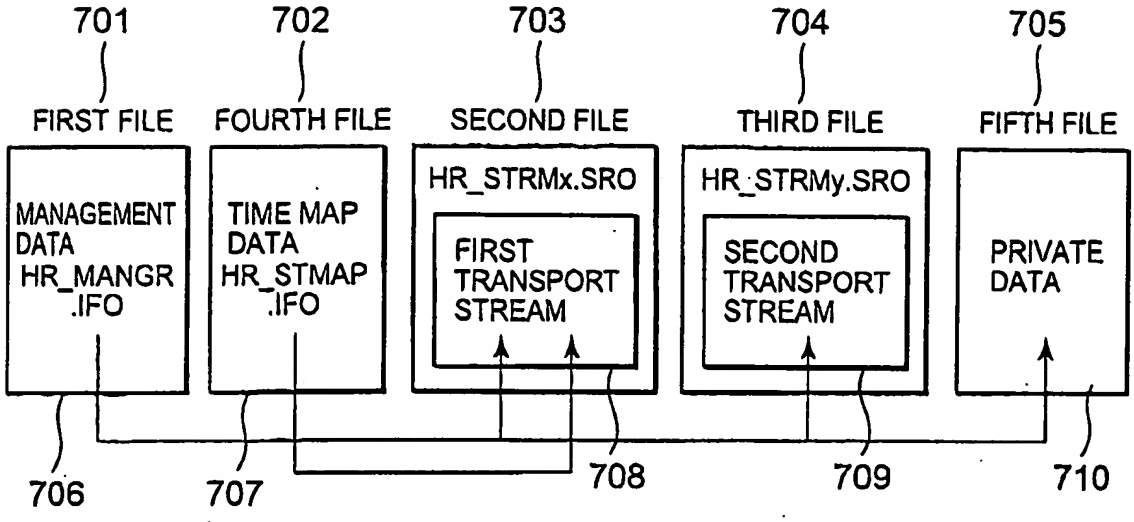
701
702
703
704
705
FIRST FILE
FOURTH FILE
SECOND FILE
THIRD FILE
FIFTH FILE
MANAGEMENT DATA HR_MANGR .IFO
TIME MAP DATA HR_STMAP .IFO
HR_STRMx.SRO
FIRST TRANSPORT STREAM
HR_STRMy.SRO
SECOND TRANSPORT STREAM
PRIVATE DATA
706
707
708
709
710

FIG. 7

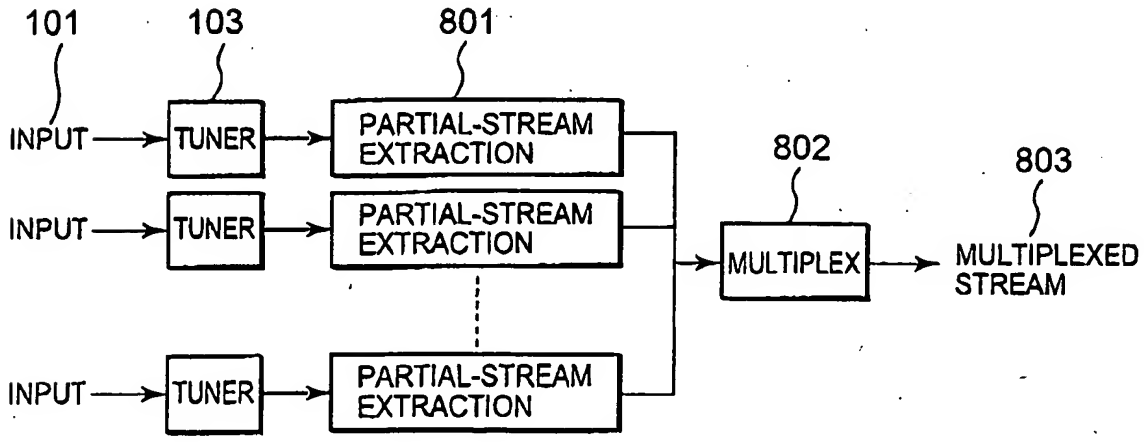
101
103
801
INPUT
TUNER
PARTIAL-STREAM EXTRACTION
INPUT
TUNER
PARTIAL-STREAM EXTRACTION
INPUT
TUNER
PARTIAL-STREAM EXTRACTION
802
MULTIPLEX
803
MULTIPLEXED STREAM

FIG. 8

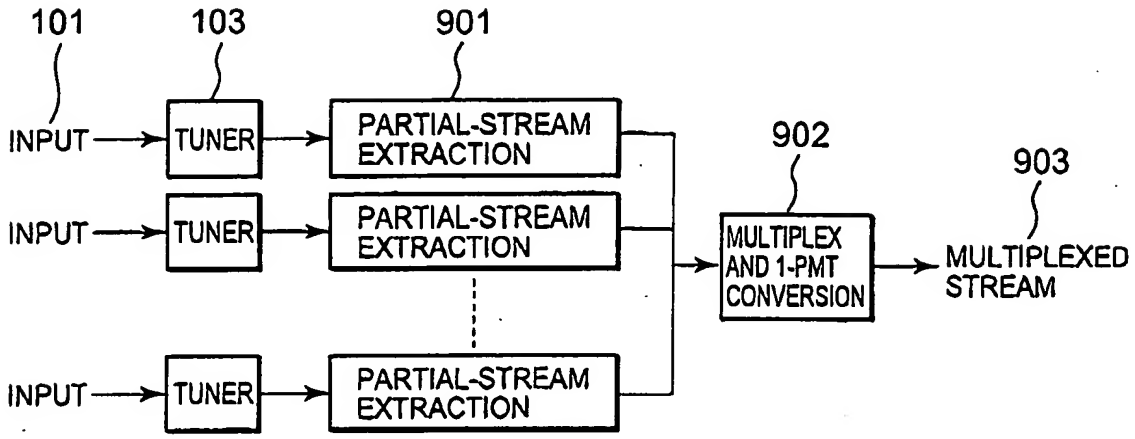
101
103
901
INPUT
TUNER
PARTIAL-STREAM EXTRACTION
INPUT
TUNER
PARTIAL-STREAM EXTRACTION
INPUT
TUNER
PARTIAL-STREAM EXTRACTION
902
MULTIPLEX AND 1-PMT CONVERSION
903
MULTIPLEXED STREAM

FIG. 9

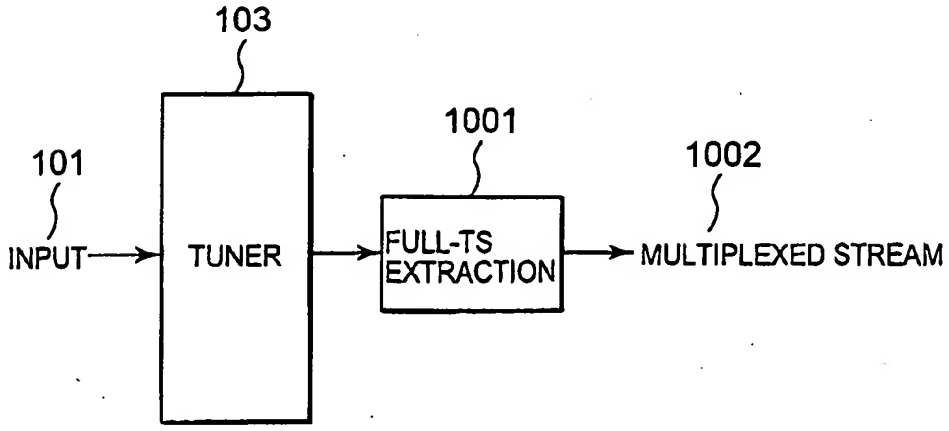
103
101
INPUT
TUNER
1001
FULL-TS EXTRACTION
1002
MULTIPLEXED STREAM

FIG. 10

DVD_HDVR

HR_MANGR.IFO
STREAM FILE INFORMATION TABLE (STM_AVFIT)
SOB STREAM INFORMATION #1 ~ SOB STREAM INFORMATION #n
STM_ATR
STREAM FORMAT
APPLICATION FORMAT
000 : JAPANESE DIGITAL BROADCAST (ARIB) FORMAT
001 : US ATSC FORMAT
010 : EUROPEAN DVB FORMAT
011~111 : RESERVED

COUNTRY CODE : CODE OF COUNTRY WHERE DATA HAS BEEN RECORDED

TS FLAG
00: 1-PMT PARTIAL TS
01: ANOTHER TS (MULTICHANNEL TS)
11 : RESERVED

PMT NUMBER
THE NUMBER OF PMTS

CHANNEL NUMBER
THE NUMBER OF MULTIPLEXED CHANNELS IN THE OTHER TS (MULTICHANNEL TS)

TS FORMAT INFORMATION : TS-FORMAT CONFIGURATION INFORMATION
000 : 1-PMT 1-CHANNEL PARTIAL TS
001 : 1-PMT MULTICHANNEL PARTIAL TS
010 : MULTI-PMT MULTICHANNEL PARTIAL TS
011 : 1-PMT FULL TS
000 : MULTI-PMT FULL TS
101~111 : OTHERS

FOR (I=1; I<=CHANNEL NUMBER ; I++) {
BROADCAST CHANNEL

000000: NHK GENERAL、000001: NHK EDUCATIONAL、000010: NIPPON TELEVISION
000100: FUJI TELEVISION、000101: TELEVISION ASAHI、000110: TELEVISION TOKYO
000111: MX TELEVISION、001000: DIGICAS、001001: BS COMMUNICATIONS
001010: MEDIA SERVE、001011: BS NTV RADIO、010000: PLAT-ONE

BROADCAST VIDEO MODE
000:MPEG-2、001 : MPEG-1、010:MPEG-4、011 : H.264、100 : WM9
101~111 : RESERVED

BROADCAST AUDIO MODE
000 : MPEG-2 AAC、001 : Dolby AC-3、010 : MPEG-1、011 : MPEG-2 BC
10 : DTS1、101 : LPCM、110~111 : RESERVED

FIG. 11A

BROADCAST STILL-PICTURE MODE
000 : JPEG、001 : PNG、010～111 :RESERVED

BROADCAST ANIMATION MODE
000 : MNG、001～111 :RESERVED

TIME MAP FLAG
00 : NOT CONTAINING TIME MAP
01 : CONTAINING TIME MAP
10～11 : RESERVED

PRESENTATION TIME STAMP (PTS) FLAG
00 : NOT CONTAINING PTS
01 : CONTAINING PTS
10～11 : RESERVED

STORAGE BROADCAST FLAG
00 : STANDARD BROADCAST STREAM
01 : STORAGE BROADCAST STREAM
10～11 : RESERVED

)

HR_STMAP.IFO
TIME MAP TABLE FOR 1-PMT PARTIAL TS
1STREF_SZ : SOBU FIRST REFERENCE PICTURE SIZE
DATABC_PB_TM : SOBU PLAYBACK DURATION (THE NUMBER OF VIDEO FIELDS)
DATABC_SZ : SOBU SIZE (THE NUMBER OF SECTORS)

HR_STRMx.SRO
1-PMT PARTIAL TS
TRANSPORT STREAM WHOSE DETAILS ON AT LEAST ONE OF STREAM, VIDEO, AUDIO, AND DATA FORMATS ARE RECORDED IN HR_MANGR.IFO FILE AND WHOSE TIME MAP IS RECORDED IN HR_MANGR.IFO OR HR_STMAP.IFO FILE

ANOTHER TS (MULTICHANNEL TS)
TRANSPORT STREAM WHOSE DETAILS ON AT LEAST ONE OF STREAM, VIDEO, AUDIO, AND DATA FORMATS ARE RECORDED IN HR_MANGR.IFO FILE AND WHOSE TIME MAP IS NOT RECORDED

HR_EXTBC.DAT
PRIVATE TS WHOSE DETAILS ON VIDEO, AUDIO, OR DATA FORMAT ARE UNKNOWN, USER DATA, OR ANOTHER STREAM

FIG. 11B

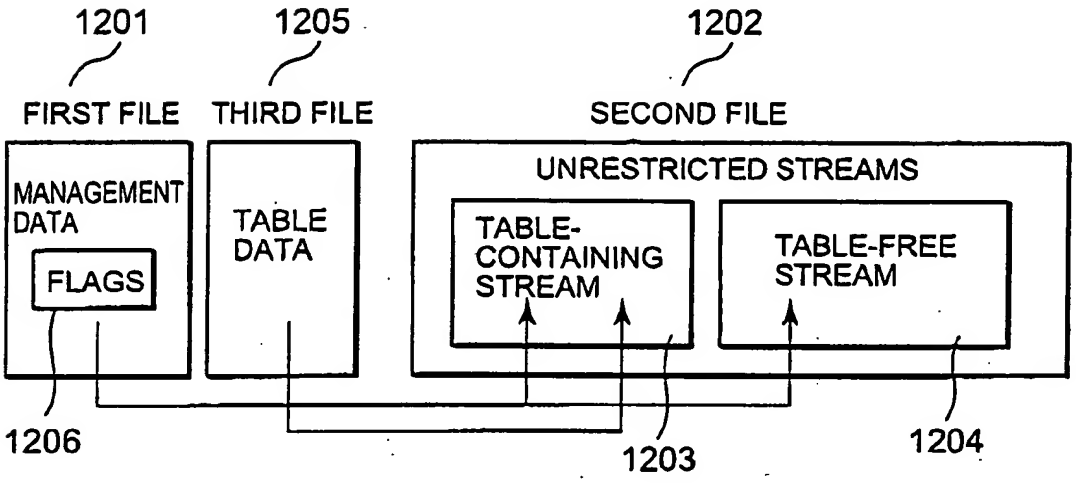
1201
1205
1202
FIRST FILE
THIRD FILE
SECOND FILE
MANAGEMENT DATA
FLAGS
TABLE DATA
UNRESTRICTED STREAMS
TABLE-CONTAINING STREAM
TABLE-FREE STREAM
1206
1203
1204

FIG. 12

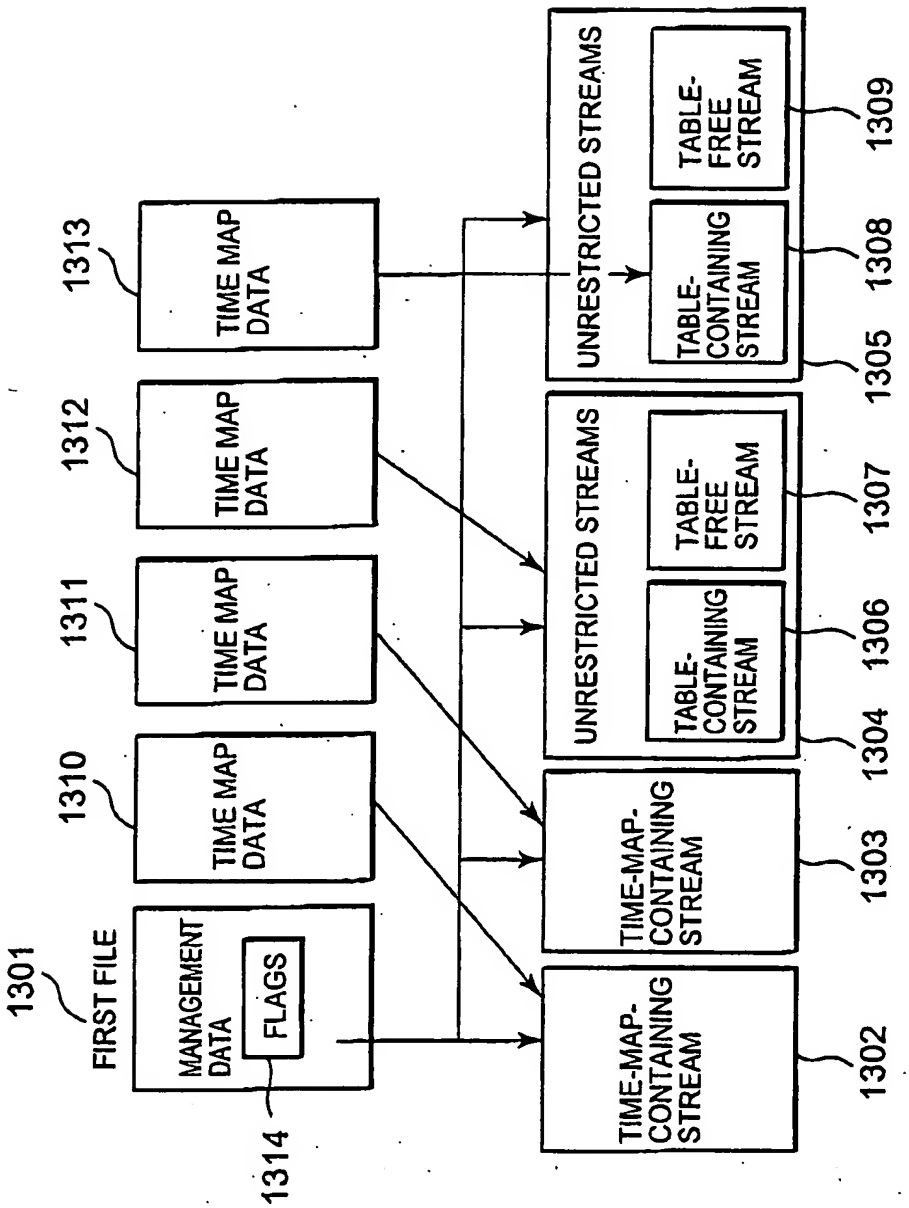
1301
FIRST FILE
MANAGEMENT DATA
FLAGS
1314
1310
TIME MAP DATA
1311
TIME MAP DATA
1312
TIME MAP DATA
1313
TIME MAP DATA
TIME-MAP-CONTAINING STREAM
1302
TIME-MAP-CONTAINING STREAM
1303
UNRESTRICTED STREAMS
TABLE-CONTAINING STREAM
1304
TABLE-FREE STREAM
1306
UNRESTRICTED STREAMS
TABLE-CONTAINING STREAM
1305
TABLE-FREE STREAM
1307
UNRESTRICTED STREAMS
TABLE-CONTAINING STREAM
1308
TABLE-FREE STREAM
1309

FIG. 13